Amendments to the Claims:

This listing of the claims will replace all prior versions and listings of the claims in the application:

Listing of Claims:

1. (Currently Amended) A method of managing Quality of Service (QoS) and/or bandwidth allocation in a Regional/Access Network (RAN) including an Application Network Interface (ANI) protocol handler, a DSL Service Manager, and a User Network Interface (UNI) protocol handler and having a broadband access server (BRAS) that facilitates differentiated end-to-end data transport in an access session between a Network Service Provider (NSP) and/or an Application Service Provider (ASP), and a Customer Premises Network (CPN) that includes a Routing Gateway (RG), the method comprising:

receiving at the ~~RAN~~ ANI protocol handler, a modify QoS and/or bandwidth allocation message ~~including updated QoS and/or bandwidth information~~ from the NSP and/or ASP, wherein the message comprises an application layer message ~~that is received independent of evaluation by the BRAS and the RG~~ including updated QoS and/or bandwidth information for one of a plurality of application flows, wherein the plurality of application flows respectively comprise a set of data packets associated with respective ones of a plurality of different applications provided via the access session, and wherein at least two of the plurality of application flows have a different QoS and/or bandwidth allocation;

forwarding the modify QoS and/or bandwidth allocation message from the ANI protocol handler to the DSL Service Manager;

updating, by the DSL Service Manager, the BRAS with the updated QoS and/or bandwidth information included in the modify QoS and/or bandwidth allocation message, wherein the BRAS is configured to manage QoS and/or bandwidth for individual ones of the plurality of application flows; and

sending the updated QoS and/or bandwidth information included in the modify QoS and/or bandwidth allocation message from the DSL Service Manager to the RG via the UNI protocol handler.

2. (Currently Amended) The method of Claim 1, wherein the modify QoS and/or bandwidth allocation message includes QoS and/or bandwidth information for the one of the plurality of application flows provided via a point-to-point protocol session.

3. (Canceled).

4. (Currently Amended) The method of Claim 1, further comprising sending an application layer acknowledgment message responsive to receipt of the modify QoS and/or bandwidth allocation message from the RAN to the NSP and/or ASP ~~independent of evaluation by the BRAS and the RG~~.

5. (Currently Amended) The method of Claim 1, ~~wherein the RAN further includes an Application Network Interface (ANI) protocol handler, a DSL Service Manager, and a User Network Interface (UNI) protocol handler; and~~ wherein receiving at the ~~RAN~~ ANI protocol handler, a modify QoS and/or bandwidth allocation message including updated QoS and/or bandwidth information from the NSP and/or ASP comprises receiving at the ANI protocol handler an update application flow control information message and/or a change session bandwidth request for the one of the plurality of application flows from the ASP.

6. (Original) The method of Claim 5, wherein updating the BRAS with the QoS and/or bandwidth information comprises:

sending the received update application flow control information message and/or change session bandwidth request to the DSL service manager; and

sending the QoS and/or bandwidth information from the DSL service manager to the BRAS.

7. (Original) The method of Claim 6, wherein the DSL service manager further verifies authorization of the modification request and updates a local data repository of

bandwidth and/or QoS data with the received QoS and/or bandwidth information.

8. (Original) The method of Claim 6, wherein sending updated QoS and/or bandwidth information to the RG comprises:

sending the QoS and/or bandwidth information from the DSL service manager to the UNI protocol handler; and

sending the QoS and/or bandwidth information from the UNI protocol handler to the RG.

9. (Original) The method of Claim 8, further comprising:

receiving at the UNI protocol handler an acknowledgment of receipt of the QoS and/or bandwidth information by the RG;

sending an acknowledgment from the UNI protocol handler to the DSL service manager responsive to receiving the acknowledgment of receipt at the UNI protocol handler; and

sending a response message to the ASP from the DSL manager via the ANI protocol handler.

10. (Original) The method of Claim 5, wherein the QoS and/or bandwidth information comprises point-to-point protocol session QoS and/or bandwidth information.

11. (Currently Amended) A system for managing Quality of Service (QoS) and/or bandwidth allocation in a Regional/Access Network (RAN) including an Application Network Interface (ANI) protocol handler, a DSL Service Manager, and a User Network Interface (UNI) protocol handler and having a broadband access server (BRAS) that facilitates differentiated end-to-end data transport in an access session between a Network Service Provider (NSP) and/or an Application Service Provider (ASP), and a Customer Premises Network (CPN) that includes a Routing Gateway (RG), comprising:

means for receiving at the ~~RAN~~ ANI protocol handler, a modify QoS and/or

bandwidth allocation message ~~including updated QoS and/or bandwidth information~~ from the NSP and/or ASP, wherein the message comprises an application layer message ~~that is received independent of evaluation by the BRAS and the RG~~ including updated QoS and/or bandwidth information for one of a plurality of application flows, wherein the plurality of application flows respectively comprise a set of data packets associated with respective ones of a plurality of different applications provided via the access session, and wherein at least two of the plurality of application flows have a different QoS and/or bandwidth allocation;

means for forwarding the modify QoS and/or bandwidth allocation message from the ANI protocol handler to the DSL Service Manager;

means for updating the BRAS with the QoS and/or bandwidth information included in the modify QoS and/or bandwidth allocation message received by the DSL Service Manager, wherein the BRAS is configured to manage QoS and/or bandwidth for individual ones of the plurality of application flows; and

means for updating the RG with the QoS and/or bandwidth information included in the modify QoS and/or bandwidth allocation message received by the DSL Service Manager via the UNI protocol handler.

12. (Currently Amended) The system of Claim 11, wherein the modify QoS and/or bandwidth allocation message includes QoS and/or bandwidth information for the one of the plurality of different application flows provided via a point-to-point protocol session.

13. (Canceled).

14. (Currently Amended) The system of Claim 11, further comprising means for sending an application layer acknowledgment message responsive to receipt of the modify QoS and/or bandwidth allocation message from the RAN to the NSP and/or ASP ~~independent of evaluation by the BRAS and the RG~~.

15. (Currently Amended) The system of Claim 11, wherein the ~~RAN further~~

~~includes an Application Network Interface (ANI) protocol handler, a DSL Service Manager, and a User Network Interface (UNI) protocol handler; and~~ wherein the means for receiving at the ~~RAN~~ ANI protocol handler, a modify QoS and/or bandwidth allocation message including updated QoS and/or bandwidth information from the NSP and/or ASP comprises means for receiving at the ANI protocol handler an update application flow control information message and/or a change session bandwidth request for the one of the plurality of application flows from the ASP.

16. (Original) The system of Claim 15, wherein the means for updating the BRAS with the QoS and/or bandwidth information comprises:

means for sending the received update application flow control information message and/or a change session bandwidth request to the DSL service manager; and

means for sending the QoS and/or bandwidth information from the DSL service manager to the BRAS.

17. (Original) The system of Claim 16, wherein the DSL service manager further includes means for verifying authorization of the modification request and means for updating a local data repository of bandwidth and/or QoS data with the received QoS and/or bandwidth information.

18. (Original) The system of Claim 16, wherein the means for updating the RG with the QoS and/or bandwidth information comprises:

means for sending the QoS and/or bandwidth information from the DSL service manager to the UNI protocol handler; and

means for sending the QoS and/or bandwidth information from the UNI protocol handler to the RG.

19. (Original) The system of Claim 18, further comprising:

means for receiving at the UNI protocol handler an acknowledgment of receipt of the

QoS and/or bandwidth information by the RG;

means for sending an acknowledgment from the UNI protocol handler to the DSL service manager responsive to receiving the acknowledgment of receipt at the UNI protocol handler; and

means for sending a response message to the ASP from the DSL manager via the ANI protocol handler.

20. (Original) The system of Claim 15, wherein the QoS and/or bandwidth information comprises point-to-point protocol session QoS and/or bandwidth information.

21. (Currently Amended) A system for managing Quality of Service (QoS) and/or bandwidth allocation, comprising:

a Regional/Access Network (RAN) having a broadband access server (BRAS) that facilitates differentiated end-to-end data transport in an access session between a Network Service Provider (NSP) and/or an Application Service Provider (ASP) by managing QoS and/or bandwidth for individual ones of a plurality of application flows provided thereby, the RAN comprising:

an Application Network Interface (ANI) protocol handler ~~the RAN being~~ configured to receive a modify QoS and/or bandwidth allocation message ~~including updated QoS and/or bandwidth information~~ from the NSP and/or ASP at an application layer ~~independent of evaluation by the BRAS and the RG~~, wherein the message includes updated QoS and/or bandwidth information for one of the plurality of application flows, wherein the plurality of application flows respectively comprise a set of data packets associated with respective ones of a plurality of different applications provided via the access session, and wherein at least two of the plurality of application flows have a different QoS and/or bandwidth allocation;

a DSL Service Manager configured to receive the modify QoS and/or bandwidth allocation message from the ANI protocol handler, update the BRAS with the QoS and/or bandwidth information included in the modify QoS and/or bandwidth

allocation message, and update a Routing Gateway (RG) of a Customer Premises Network (CPN) with the QoS and/or bandwidth information included in the modify QoS and/or bandwidth allocation message; and

a User Network Interface (UNI) protocol handler configured to provide an interface between the DSL Service Manager and the RG.

22. (Currently Amended) The system of Claim 21, wherein the modify QoS and/or bandwidth allocation message includes QoS and/or bandwidth information for the one of the plurality of different application flows provided via a point-to-point protocol session.

23. (Canceled).

24. (Currently Amended) The system of Claim 21, wherein the RAN is further configured to send an application layer acknowledgment message responsive to receipt of the modify QoS and/or bandwidth allocation message from the RAN to the NSP and/or ASP ~~independent of evaluation by the BRAS and the RG~~.

25. (Currently Amended) The system of Claim 21, wherein the ~~RAN further includes a~~ DSL Service Manager is configured to control modifications of QoS and/or bandwidth allocation of the BRAS and/or the RG[[;]], wherein the [[an]] Application Network Interface (ANI) protocol handler is configured to receive an update application flow control information message and/or a change session bandwidth request from the ASP and pass the received message to the DSL Service Manager[[;]]], and wherein the [a]] User Network Interface (UNI) protocol handler is configured to interface between the DSL Service Manager and the RG.

26. (Original) The system of Claim 25, wherein the DSL Service Manager is further configured to pass the QoS and/or bandwidth information from the ANI protocol handler to the BRAS to update the QoS and/or bandwidth information of the BRAS.

27. (Original) The system of Claim 26, further comprising a local data repository of bandwidth and/or QoS data and wherein the DSL Service Manager is further configured to verify authorization of the modification request and update the local data repository of bandwidth and/or QoS data with the received QoS and/or bandwidth information.

28. (Original) The system of Claim 26, wherein the DSL Service Manager is further configured to forward the QoS and/or bandwidth information to the UNI protocol handler; and

wherein the UNI protocol handler is further configured to pass the QoS and/or bandwidth information to the RG.

29. (Original) The system of Claim 28, wherein the UNI protocol handler is further configured to receive an acknowledgment of receipt of the QoS and/or bandwidth information by the RG and forward the acknowledgment to the DSL Service Manager; and

wherein the DSL Service Manager is further configured to send a response message to the ASP via the ANI protocol handler.

30. (Original) The system of Claim 26, wherein the QoS and/or bandwidth information comprises point-to-point protocol session QoS and/or bandwidth information.

31. (Currently Amended) A computer program product for managing Quality of Service (QoS) and/or bandwidth allocation in a Regional/Access Network (RAN) including an Application Network Interface (ANI) protocol handler, a DSL Service Manager, and a User Network Interface (UNI) protocol handler and having a broadband access server (BRAS) that facilitates differentiated end-to-end data transport in an access session between a Network Service Provider (NSP) and/or an Application Service Provider (ASP), and a Customer Premises Network (CPN) that includes a Routing Gateway (RG), comprising:

a computer ~~readable~~ memory medium having computer readable program code

embodied therein, the computer readable program code comprising:

computer readable program code configured to receive at the ~~RAN~~ ANI protocol handler, a modify QoS and/or bandwidth allocation message ~~including updated QoS and/or bandwidth information~~ from the NSP and/or ASP, wherein the message comprises an application layer message ~~that is received independent of evaluation by the BRAS and the RG~~ including updated QoS and/or bandwidth information for one of a plurality of application flows, wherein the plurality of application flows respectively comprise a set of data packets associated with respective ones of a plurality of different applications provided via the access session, and wherein at least two of the plurality of application flows have a different QoS and/or bandwidth allocation;

computer readable program code configured to forward the modify QoS and/or bandwidth allocation message from the ANI protocol handler to the DSL Service Manager;

computer readable program code configured to update the BRAS with the QoS and/or bandwidth information included in the modify QoS and/or bandwidth allocation message received at the DSL Service Manager, wherein the BRAS is configured to manage QoS and/or bandwidth for individual ones of the plurality of application flows; and

computer readable program code configured to update the RG with the QoS and/or bandwidth information included in the modify QoS and/or bandwidth allocation message received at the DSL Service Manager via the UNI protocol handler.

32. (Currently Amended) The computer program product of Claim 31, wherein the modify QoS and/or bandwidth allocation message includes QoS and/or bandwidth information for the one of the plurality of different application flows provided via a point-to-point protocol session.

33. (Canceled).

34. (Currently Amended) The computer program product of Claim 31, further comprising computer readable program code configured to send an application layer

acknowledgment message responsive to receipt of the modify QoS and/or bandwidth allocation message from the RAN to the NSP and/or ASP ~~independent of evaluation by the BRAS and the RG~~.

35. (Currently Amended) The computer program product of Claim 31, ~~wherein the RAN further includes an Application Network Interface (ANI) protocol handler, a DSL Service Manager, and a User Network Interface (UNI) protocol handler; and~~ wherein the computer readable program code configured to receive at the ~~RAN~~ ANI protocol handler, a modify QoS and/or bandwidth allocation message including updated QoS and/or bandwidth information from the NSP and/or ASP comprises computer readable program code configured to receive at the ANI protocol handler an update application flow control information message and/or a change session bandwidth request for the one of the plurality of different application flows from the ASP.

36. (Original) The computer program product of Claim 35, wherein the computer readable program code configured to update the BRAS with the QoS and/or bandwidth information comprises:

computer readable program code configured to send the received update application flow control information message and/or change session bandwidth request to the DSL service manager; and

computer readable program code configured to send the QoS and/or bandwidth information from the DSL service manager to the BRAS.

37. (Original) The computer program product of Claim 36, further comprising:

computer readable program code configured to verify authorization of the modification request; and

computer readable program code configured to update a local data repository of bandwidth and/or QoS data with the received QoS and/or bandwidth information.

38. (Original) The computer program product of Claim 36, wherein the computer readable program code configured to update the RG with the QoS and/or bandwidth information comprises:

computer readable program code configured to send the QoS and/or bandwidth information from the DSL service manager to the UNI protocol handler; and

computer readable program code configured to send the QoS and/or bandwidth information from the UNI protocol handler to the RG.

39. (Original) The computer program product of Claim 38, further comprising:

computer readable program code configured to receive at the UNI protocol handler an acknowledgment of receipt of the QoS and/or bandwidth information by the RG;

computer readable program code configured to send an acknowledgment from the UNI protocol handler to the DSL service manager responsive to receiving the acknowledgment of receipt at the UNI protocol handler; and

computer readable program code configured to send a response message to the ASP from the DSL manager via the ANI protocol handler.

40. (Original) The computer program product of Claim 35, wherein the QoS and/or bandwidth information comprises point-to-point protocol session QoS and/or bandwidth information.